



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

MAR 05 2007

**OFFICE OF PESTICIDES AND TOXIC
SUBSTANCES**

MEMORANDUM

SUBJECT: Science Review of product performance studies, MRIDs 470059-01 and 470059-02 for label amendment of B2E-09, EPA Reg. No. 75318-9, containing 2.5 % w/w (S)-Methoprene (CAS# 65733-16-6) as active ingredient.

DP Barcode: 337271
Decision No. 371783
EPA Reg. No. 75318-9
Chemical class: Microbial
PC Code: 105402 S-Methoprene
CAS No. 65733-16-6
MRIDs 470059-01 and 470059-02

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ACTION REQUESTED

B2E Biotech LLC submitted 2 product performance studies to show effectiveness of the product, B2E-09, EPA Reg. No. 75318-9, containing 2.5 % w/w (S)-Methoprene, over larger areas than stated on the product label in support of label amendment for use directions based on recently completed efficacy data.

RECOMMENDATIONS AND CONCLUSIONS

1. The submitted product performance data is acceptable to support label use directions for application rates over larger areas than currently stated on the product label. These data show that the product inhibits emergence of mosquitoes *Culex*, *Culiseta*, *Coquillettidia* and *Mansonia* spp. when applied at a rate of 1 briquet per of 100 square feet. The product is equally effective to control *Aedes*, *Ochlerotatus*, *Anopheles* and *Psorophora* spp. when applied at a rate of 1 briquet per 200 square feet.
2. On page 7 of MRIDs 470059-01 *Field Evaluation of B2E-09 against Ochlerotatus melanimon Mosquitoes in California*, the statement “ The details associated with the B2E-07 test sites are as follows:” should be verified for identity of the test material. The test material in this study is B2E-09, not B2E-07 as stated on the study report.

STUDY SUMMARY

MRIDs 470059-01 Field Evaluation of B2E-09 against *Ochlerotatus melanimon* Mosquitoes in California

This study evaluates the efficacy of B2E-09 (2.5 % w/w (S)-Methoprene), slow release control briquet (15 g) against *Ochlerotatus melanimon* when applied at a rate of 1 briquet / 200 square feet. The study was conducted in 5 separate irrigated pasture and freshwater sites. Applications were made between August 14 and August 21, 2006. Efficacy was assessed by monitoring the development of treated larvae in each respective field site. Pupae were collected from around the perimeters of each site and transferred to the laboratory to complete development.

Mosquito development was recorded as: 1) pupae dead, 2) adults dead, 3) and adults that completed development. To determine how many mosquitoes completed development and flew away, the number of dead mosquitoes was subtracted from the number of exuviae or pupal skins shed by newly emerged adults. Concurrent pupal collections were made from 3 untreated *O. melanimon* breeding sites adjacent to the treatment sites. Results are expressed as percentage of Emergence Inhibition. Results from treatments were not corrected for control mortality. Data were analyzed using a Chi-square test; the level of statistical significance was established at $P = 0.05$.

MRIDs 470059-02 Field Evaluation of B2E-09 against *Culex tarsalis* Mosquitoes in California

This study evaluates the efficacy of B2E-09 (2.5 % w/w (S)-Methoprene), slow released control briquet against *Culex tarsalis* when applied at a rate of 1 briquet / 100 square feet. The study was conducted in 3 separate irrigated pasture sites and 1 freshwater grassy river overflow site. Applications were made between August 14 and August 21, 2006. Efficacy was assessed by monitoring the development of treated larvae in each respective field site. Pupae were collected from around the perimeters of each site and transferred to the laboratory to complete development. Mosquito development was recorded as: 1) pupa dead, 2) adults dead, 3) and adults that completed development. To determine how many mosquitoes completed development and flew away, the number of dead mosquitoes was subtracted from the number of exuviae or pupal skins shed by newly emerged adults. Concurrent pupal collections were made from 5 untreated *Culex tarsalis* breeding sites adjacent to the treatment sites. Results are expressed as percentage of Emergence Inhibition. Results from treatments were not corrected for control mortality. Data were analyzed using a Chi-square test; the level of statistical significance was established at $P = 0.05$. Applications of 1 briquet/100 sq. ft. in field breeding sites (native pastures and river flood plain depressions) of mosquito, *Culex tarsalis*, achieved 98% inhibition of adult mosquito emergence. Applications of 1 briquet/200 sq.ft. in field breeding sites (irrigated pastures and freshwater pond) of mosquito, *Ochlerotatus melanimon*, achieved 96.4% inhibition of adult mosquito emergence.

BACKGROUND AND REVIEWER COMMENTS

1. The application rates used in these studies are the same as those proposed on the use directions on the revised product label.
2. The amended label recommends application rates of 1 briquet/100 square feet, and 1 briquet/200 square feet, depending on the genera of mosquito.
3. Results from treatments were not corrected for control mortality. Natural mortality among pupae collected from untreated control sites were 3.6 ± 1.4 percent and 3.1 percent for *Culex tarsalis* and *Ochlerotatus melanimon*, respectively. The level of developmental disruption, expressed as percent inhibition of adult emergence, achieved at the specified rates remains significant after correcting the treatment results for percent of natural mortality at the pupae stage.
4. Additional application sites similar to other registered products area also stated on the label. These application sites are supported by efficacy data, and estimated environmental concentration (EEC) data previously submitted to the Agency for registration of this product.
5. Sub-label A: Commercial Use includes application rates of 1 briquet/ 100 sq. ft., and 1 briquet/ 200 sq ft. for specific mosquito genera. Sub-label B: Commercial Use –

(catch basin) and Sub-label C Residential Use include only one application rate of 1 briquet/ 100 sq. ft.

6. The species of mosquitoes tested are vectors of diseases listed on the labels.



13544

R141772

Chemical: S-Methopren:

PC Code:
105402

HED File Code: 41600 BPPD Other

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HED Records Reference Center
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